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 TITLE: The use of free cortisol index for laboratory assessment of  
 pituitary-adrenal function.  
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AB We developed a time-resolved-fluoro-immunoassay to measure cortisol  
 binding globulin (CBG) in serum. It is a microtitre plate, solid phase,  
 reagent excess, **sandwich** assay in which the same polyclonal  
 antiserum is used as a source of **capture** and **labeled**  
**antibodies**. The results of this assay were shown to be reliable  
 and were fully comparable with those obtained by a commercially available  
 kit. As a reflection of the free cortisol concentration we measured  
 cortisol and CBG concentrations in serum and calculated the Free Cortisol  
 Index (FCI) = [cortisol]serum/[CBG]serum.100. The clinical use of this  
 parameter, as a screening test for disturbances of the pituitary-adrenal  
 axis, was investigated in different groups of subjects: healthy men and  
 women, women using oral contraceptives, pregnant women at term, patients  
 with thyroidal illnesses, patients using anti-epileptic drugs and patients  
 suffering from adrenal diseases. In a number of groups we compared the  
 FCI results with measurements of cortisol in saliva, another parameter  
 used as an estimate of the concentration of free cortisol in blood. Our  
 conclusion is that the FCI, in contrast to a total cortisol measurement  
 alone, can prevent unnecessary further testing.